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51 YEARS of SP's SINCE 1964 DECADES OF BOUNDLESS EXCELLENCE

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In a country like India with limited support from the industry and market, initiating 50 years ago (in 1964) publishing magazines relating to Army, Navy and Aviation sectors without any interruption is a commendable job on the part of SP Guide Publications. By this, SP Guide Publications has established the fact that continuing quality work in any field would result in success.

Narendra Modi, Hon'ble Prime Minister of India

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DECADES OF BOUNDLESS EXCELLENCE

While we at SP's cherish our journey started in 1964, founded by our Founder Editor and Founder Publisher Shri S P Baranwal; we do believe that the entry into 51st year and beyond is just a beginning for us. We therefore look forward to constantly evolving and expanding our qualitative efforts during coming years and coming decades.

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Defence Minister hands over Maareech to the Indian Navy

Defence Minister Manohar Parrikar dedicated to the nation the 'Seakeeping and Manoeuvring Basin (SMB)' during a function held at the Naval Science and Technological Laboratory (NSTL), Visakhapatnam, on November 14, 2015. Admiral R.K. Dhowan, Chief of the Naval Staff, and Secretary, Department of Defence R&D and Director General of DRDO Dr S. Christopher were also present at the ceremoney. The Minister also handed over Maareech—advanced torpedo defence system developed by the Defence Research and Development Organisation (DRDO) to the Indian Navy.

Set up as a joint effort of DRDO and the Indian Navy, SMB facility is one of its kind in the country. The facility puts India among the few nations in the world having the capability to undertake comprehensive hydrodynamic model testing of naval platforms

and weapon systems. SMB would help to design and build state-of-the-art naval combatants such as submarines, ships, torpedoes, etc.

Maareech, a joint project of the Naval Physical and Oceanographic Laboratory (NPOL), Kochi, and NSTL Visakhapatnam is a state-of-the-art indigenous system for torpedo detection and countermeasures. This system offers a complete solution to detect and locate the incoming torpedo and to apply countermeasures to protect naval platform against torpedo attack. Two production grade Maareech systems have been developed and user evaluation trials completed onboard two Indian Navy ships.

Complementing the vital role of DRDO towards self-reliance and promoting 'Make in India' efforts, the Defence Minister said the development of complex system – Maareech—is an excellent model of synergy between DRDO, Indian Navy, public and private industries, demonstrating yet another milestone in 'Make in India' programme. SP

PHOTOGRAPH: Indian Navy

Cover:
The Tactical Communications System is a revolution in communication technology and is a quantum jump above the technology currently in use. It will be the Indian Army's futuristic backbone for a digitised battlefield communications network.

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Paris is burning

The ISIS (Islamic State of Iraq and Syria) has struck a vital blow to humanity with its dastardly terrorist attacks in Paris, knocking the daylights out of not just the city of lights but the world. With at least 129 people killed and over 300 injured, this has been one of the worst attacks in Europe and France has rightly declared 'war'. Eliminating the ISIS and its jihadist fighters who may have spread themselves across the world is going to be a tough job for any country, even the US. It calls for coordinated efforts of all right thinking nations to come together on sharing vital information on terrorist activities. A lot more needs to be invested in terms of human intelligence, cyber intelligence, surveillance, border controls, etc.

At the time of writing, for the first time after World War II, we are seeing France and Russia coming together to pound ISIS targets in Syria. While the strategy to attack the core of ISIS in Syria is the way to go, some of the European nations need to seriously think on effective security cordons, keeping in mind the influx of refugees. The battle has come nearer home.

In the backdrop of the transformation of the battlefield which now seemingly has no boundaries, technologies are going to play crucial role in determining security. The future is of course Tactical Communications System (TCS) which is nothing but a digitised battlefield. In this issue, we have focused on developments of TCS in the Indian Army. Writes Lt General V.K. Kapoor (Retd) that the TCS is a revolution in communication technology and is a quantum jump about the technology currently in use. "It will be the Indian Army's futuristic backbone for a digitised battlefield communication network." In the Indian subcontinent, future wars will be a hybrid nature, a mix of modern wars and wars of the industrial age. Both will demand knowledge-based warfare techniques and digitised communications.

In his forthright viewpoint, Lt General P.C. Katoch (Retd) talks about the inordinate delays in the TCS programme. He writes that the absence of TCS and patchy availability of OFC in TBA have adversely affected trials and fielding of operational information systems. The TCS, when fielded with requisite mobile terminals network, will fulfil a long-standing critical operational void of the Indian Army.

Meanwhile, the Indian Government has opened up the defence sector with announcement of increase in foreign direct investment from 26 to 49 per cent. In a critique, Air Marshal B.K. Pandey (Retd) states that this increase is not sufficient alone to enthuse OEMs to look at India as an investment destination. Lt General P.C. Katoch (Retd) comments that there is a need to revisit the FDI in defence and make the defence sector unambiguously lucrative for FDI. More needs to be done and we hope the government keeps its ears to the ground.

Happy reading !

Jayant Baranwal
Publisher & Editor-in-Chief

LT GENERAL
V.K. KAPOOR (RETD)

Developments in Tactical Communications System in the Indian Army

The Tactical Communications System is a revolution in communication technology and is a quantum jump above the technology currently in use. It will be the Indian Army's futuristic backbone for a digitised battlefield communications network.

In military communications, a Tactical Communications System (TCS) is generally employed within, or in direct support of, tactical forces. It is designed to meet the requirements of changing tactical situations and varying environmental conditions, and provides secure communications, such as voice, data and video, among mobile/static users to facilitate command and control within, and in support of tactical forces. It usually requires short installation times, in order to meet the requirements of frequent relocation.

Today the network-centric warfare (NCW) has come of age and this capability is being established in all modern armed forces of the world as it facilitates situational awareness, collaborative planning and self-synchronisation thus enhancing overall combat power and speed of operations. The Indian Army's decision support systems are at various stages of development and some have already been fielded.

Network-centricity in future battlefields will be vital for winning wars and this can only be achieved if our communications are digitised,

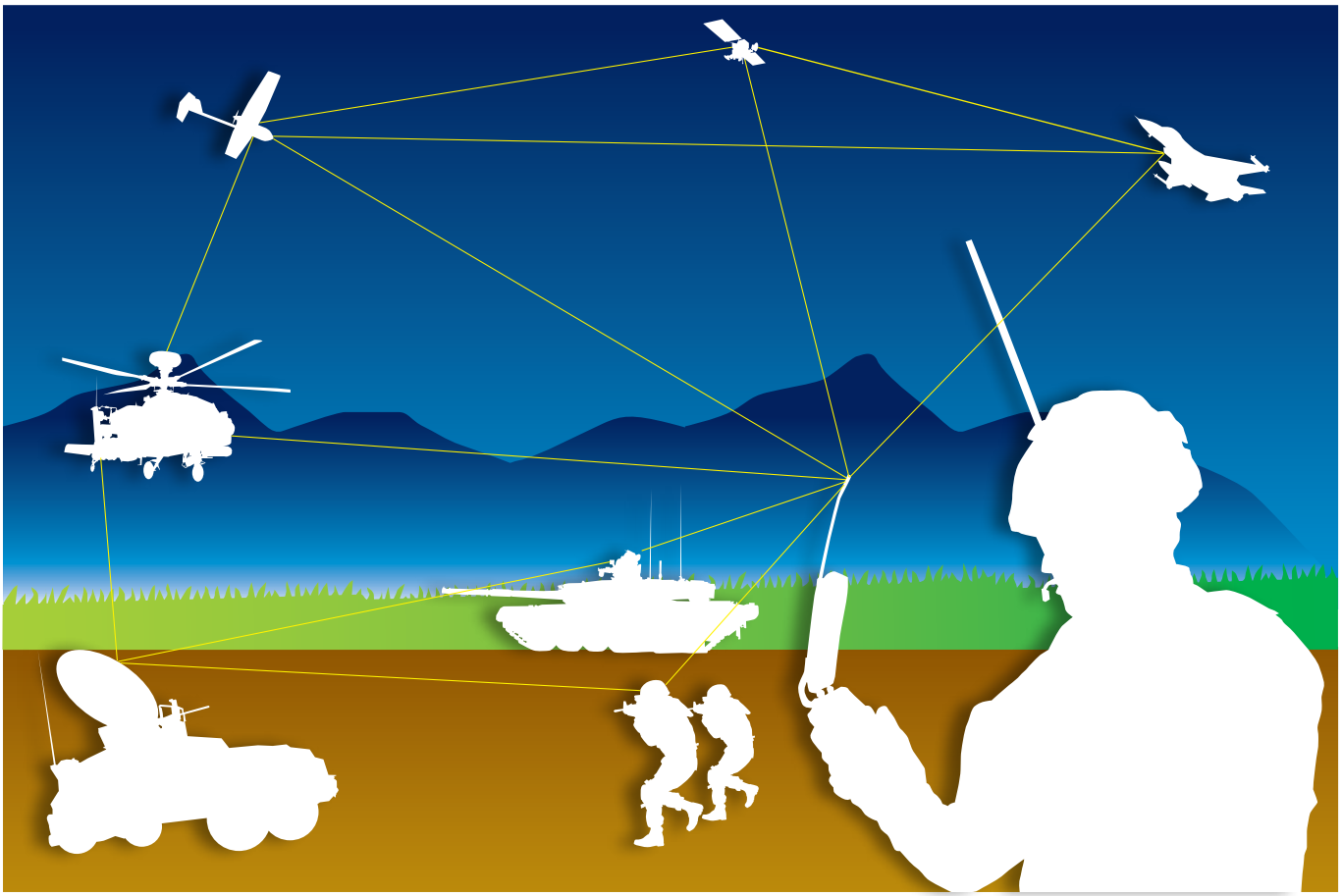


ILLUSTRATION: Anoop Kamath

secure, robust (with built-in redundancy) and survivable in the strategic as well as in the tactical domains. The tactical battle area (TBA) primarily has two types of networks which are integrated–static communications and mobile communications. Effective static communications are being acquired by the Indian Army through a new optical fibre cable (OFC) network, being provided to the military since it was made to surrender 3G spectrum. In addition they have the Army Static Communication Nodes (ASCON) all along the international border. Thus while static communications will be networked through OFC and ASCON Nodes, and satellite links, mobile offensive formations will require the development of Tactical Communications Network (TCN) which are presently based on the upgraded Army Radio Engineering Network (AREN) system of communications.

Tactical Communication System – A Digitised Network

In the future, TCS is planned to replace AREN system currently being used in 'offensive' formations. The AREN system uses radio relay equipment (commonly referred to as RR equipment) to connect Brigade level headquarters to Division and Corps level headquarters on the battlefield. Based on the type of mobility required, the RR equipment of offensive formations (Strike Corps), whose missions invariably lie across the border is generally mounted on high mobility wheeled vehicles or tracked vehicles while those of defensive formations are based on normal wheeled lorries. Rear of the Corps Headquarters, up to Regional Commands and to Army Headquarters the communications acquire a more static configuration, relying more on OFC, ASCON Nodes and satellite links and less on radio.

The TCS is a revolution in communications technology and is a quantum jump above the technology currently in use. It will be the Indian Army's futuristic backbone for a digitised battlefield communication network. This system will provide the capacities required for future battlefield communications in the context of network-centric warfare and for facilities such as streaming video transmissions which require much higher bandwidths. It will facilitate the communications from the Corps Headquarters to the troops deployed in the forward areas and to offensive formations which operate beyond the borders in the enemy territory.

The TCS architecture will comprise secure radios, satellite terminal systems and fibre-optic links, and will have modern protection systems against electronic jamming threats. The TCS will be linked with smart antenna systems to support its transmission systems and will be tied to several Army surveillance and intelligence-gathering systems, including the aerostat radars and several unmanned aerial vehicles.

Last Mile Connectivity

As far as the last mile connectivity in the TBA is concerned it cannot be overemphasised as it is meant to empower the soldier who is at the cutting-edge of our forces. The concept of Battle Management Systems (BMS) fulfils this requirement which will be linked to the TCS. It is expected that in the next few years the Indian Army will be able to induct state-of-the-art digital systems which would help in sustaining the momentum and tempo of operations by clearing the fog of war and by presenting a comprehensive battle picture to the commanders at all levels.

Other Armies

China's military modernisation in the sphere of communications has been based on dissecting enormous Western literature, its scope and progress. Despite this boom, many analysts have paid relatively little attention to recent advances in the People's Liberation Army's (PLA) command, control, communication, computer, intelligence, surveillance and reconnaissance (C4ISR) capabilities. The PLA's growing complement of manned and unmanned aircraft, reconnaissance satellites, and sophisticated ground-based infrastructure comprises the operational foundation of China's emerging network-centric military. Much Chinese thinking on C4ISR and military modernisation stems from analysis of the United States' military performance in both their conflicts in Iraq.

Pakistan Army has already instituted the PATCOM (Pakistan Army Tactical Communications). Under this programme, all Corps have been equipped with hand-held radio sets, VHF vehicles radio sets, low and medium power radio sets, field exchanges and FAX machines. Work is in progress to have a real-time C4I System at all tiers of Pakistan Army.

The British Army has introduced the FALCON trunk communication programme which is being introduced incrementally in British Army. It provides modern, secure communications infrastructure for deployed formations and operating bases. Designed around IP, the system has scalable application meeting needs of an expeditionary force.

The US Army's current and future tactical communications network is Warfighter Information Network-Tactical (WIN-T), provides secure, agile and survivable end-to-end connectivity and on-demand bandwidth that is dynamically allocated, based on operational priority and precedence among millions of space, air, sea and terrestrial-based fixed and mobile users.

TCS Project Details

Indian Army's TCS project fielding was originally scheduled to commence in year 2000 (christened TCS 2000) but did not take off. Later, this was given the name TCS 2010 but started moving forward at a snail's pace. In February 2014 two development agencies (DAs) were selected to develop the prototypes of the TCS. Of the two DAs selected were the state-owned Bharat Electronics Limited (BEL) and a consortium made up of private sector defence companies, including Larsen & Toubro, Tata Power SED and HCL Ltd. Both DAs have been tasked to develop a TCS prototype at the cost of $100 million apiece. The government is to finance 80 per cent of the costs incurred in the prototype development. Once the systems are developed they will be evaluated, tested on the ground, and then one of the two will be selected for production. The entire process, conducted under the Indian Defense Acquisition Council's 'Make in India' procurement category, was expected to take 36 months. It may be noted that the TCS project is worth over $2 billion (over ₹13,000 crore) and TCS became the first 'Make' programme under the Defence Procurement Procedure (DPP) 2011.

Disputes Have Arisen

It has been reported that procedural disputes have cropped up leading to further delay. The disputes basically involve the following issues:

- Tax exemption incentives.
- Intellectual property rights.
- A level playing field for the private sector companies.

The Larsen & Toubro, Tata Power SED and HCL Ltd Consortium has reportedly requested that it receives the same tax incentives as provided to BEL. The second dispute involves the intellectual property rights (IPR) of the system. Project requires the IPR to be with the Army through MoD. Since TCS would be a dedicated strategic project, the Army wants to ensure the technologies built into the prototype and the final systems are 'sanitised', implying these technologies are exclusively developed for the Army and not shared. The developing agencies feel the Army's case is impractical since it implies the DAs have to take an undertaking from the overseas equipment manufacturers which may not be forthcoming. Moreover the norms for checks on imported technologies would be uniform for both developing agencies. The Consortium's demand related to IPR must also be seen in light of the 'Make in India' call by the Prime Minister which is to transform India into a manufacturing hub, which obliquely implies that products may be sold elsewhere with or without permission on case to case basis.

The private sector DA is also demanding a level playing field. The government has already created facilities in BEL which would be utilised by them free of cost, whereas the private sector consortium would have to make investments that would be added on their bid. Ideally, the depreciation and interest of the Ministry of Defence (MoD)-funded facilities should at least be added on BEL's bid to ensure a level playing field. This issue is still to be resolved. The Consortium wants the government to address the issue since the production contract is eventually to be awarded to the 'lowest bidder' after the successful development of the prototypes. We hope that these procedural disputes will be resolved soon and the project moves forward rapidly.

In the meanwhile the Indian Army's communication requirements are increasing enormously and becoming more complex in view of the future joint war-fighting doctrines that will encompass joint and integrated operations, involving higher mobility, rapid manoeuvre, quick sidestepping and dispersion and the ever growing demands for battlefield transparency in the form of intelligence, surveillance and reconnaissance (ISR), and the ever present need of commanders at all levels for reducing the timings of the observe, orient, decide and act (OODA) loop.

This TCS will provide the capacities required for future battlefield communications in the context of network-centric warfare and for facilities such as streaming video transmissions which require much higher bandwidths.

Conclusion

Technology has changed the traditional thought processes on military effectiveness. Increasingly, modern armed forces are endeavouring to obtain superiority over the enemy by qualitative means through advanced technologies. Developments in imaging, remote sensing, night vision, sensors, precision-guided munitions, stealth technology and above all digital communications and computer networks are compelling the military to adopt new war-fighting techniques. The current 'silent' revolution in military affairs, however, has not been accompanied by an examination of its impact on our force structures, organisational aspects, doctrines, quality of leadership, human resource development and logistics. In the Indian subcontinent, future wars will be a hybrid nature, a mix of modern wars and wars of the industrial age. Both will demand knowledge-based warfare techniques and digitised communications. SP

LT GENERAL
P.C. KATOCH (RETD)

Army's Tactical Communications System – More delays

Absence of TCS and patchy availability of OFC in TBA has also been adversely affecting trials and fielding of operational information systems even though we have had a full-fledged corps for undertaking field trials. The TCS, when fielded with requisite mobile terminals network, will fulfill a long-standing critical operational void of the Indian Army.

Indian Army's Mobile Integrated Network Terminal

PHOTOGRAPH: PIB

There was much euphoria in early 2014 when two agencies were finally selected for developing the Army's Tactical Communications System (TCS) after years of delay. But this too appears to have been bogged down like most military systems under the ambiguous pretext of 'procedural delays'. It is most unfortunate since the Army required this system more than two decades back with its requirement increasing exponentially to accommodate existing and future war-fighting concepts that encompass mobility, fast-paced manoeuvres and rapid dispersion aside from intelligence surveillance and reconnaissance (ISR), battlefield transparency, exchange of information, speedy target acquisition and the requirement to make quick decisions. Ironically, the project was originally scheduled to commence in the year 2000 (christened TCS 2000) but never saw the light of the day. Later, this was given the name TCS 2010 but has really started moving forward only from year 2009.

The Army had hoped to bring the TCS aboard as soon as possible, but instead of quickly moving ahead on a project first conceived in 2000, procedural disputes involving the two development agencies tapped to compete for the programme have halted progress. Of the two developing agencies selected, one is the state-owned Bharat Electronics Limited (BEL). The second development agency involves a consortium made up of private sector defence companies, including Larsen & Toubro, Tata Power SED and HCL Ltd. Both have been tasked with each developing a TCS prototype at the cost of $100 million apiece. The government is to finance 80 per cent of the costs incurred in the prototype development. Once the systems are developed they will

be evaluated, tested on the ground, and then one of the two will be down-selected for production.

The entire process, conducted under the Indian Defence Acquisition Council's 'Make in India' procurement category, requiring fully indigenous-sourced content was expected to take 36 months but is bogged down. Larsen & Toubro, Tata Power SED and HCL Ltd Consortium is reportedly refusing to proceed with development until it receives equivalent tax incentives provided to BEL, as well as control over the intellectual property rights (IPR) to the system. The first demand of the Consortium is very valid—why should they not have the same incentives as BEL? As to the question of IPR, as per the project requirements, the IPR are to be with the Army through the Ministry of Defence (MoD). On the other hand, since TCS would be a dedicated strategic project, the Army wants to ensure the technologies built into the prototype and the final system are 'sanitised', implying these technologies are exclusively developed for the Army and not shared. At the same time, the developing agencies wonder how the Army can ensure these technologies can remain 'sanitised' since it implies the developing agencies have to take an undertaking from the overseas equipment manufacturers for unrestricted use of the imported technologies while the norms for checks on technologies would be uniform for both developing agencies. The Consortium demand related to IPR is also perhaps because of the 'Make in India' call by the Prime Minister which is to transform India into a manufacturing hub, and obliquely implies products may be sold elsewhere with or without permission on case to case basis. In any event, what has happened on ground is that development of the prototype by Larsen & Toubro, Tata Power SED and HCL Ltd Consortium has not taken off.

But that is not all. Demanding a 'level playing field', an executive of the Consortium has stated, "The Indian Government has already created facilities in BEL which would be utilised by them free of cost, whereas the private sector consortium would have to make investments that would be loaded on our offer. Ideally, the depreciation and interest of the MoD-funded facilities should at least be loaded on BEL to ensure a level playing field. This is still an issue to be resolved". This is a valid argument by the Consortium that needs to be addressed especially since the production contract is eventually to be awarded to the 'lowest bidder' post-development of the prototypes.

For many years the government claims of providing level playing field to the private sector have never been more than cosmetic; at best through DRDO-DPSUs, which is grossly unfair and not conducive to optimising developments for bridging equipment and system voids of the military. Halting of development of the prototype TCS by the Consortium would lead to: first, further avoidable delay (beyond 36 months) in developing the prototype TCS, leading to further delay in production and eventual fielding of a system conceived one-and-a-half decades back; second, undue advantage to BEL; third, possible pullout by the Consortium in case disputes remain unresolved leading to a single vendor situation and the whole procedure of selection of vendors being repeated afresh, and/or; fourth, alternatively, BEL given the production contract in event of pullout by the Consortium despite single vendor situation. What is highly intriguing is that despite these disputes lingering for over a year-and-a-half, no effort has been made by the government to resolve them. This leads to the suspicion that it may well be deliberate, leading to the fourth contingency mentioned above: BEL given the production contract in event of pullout by the Consortium despite single vendor situation. This would be highly unfortunate and certainly not in line with the hype created about 'Make in India'. Besides, time certainly appears to have no value for our policy makers.

It may be noted that the TCS project is worth over $2 billion (over ₹13,000 crore) and TCS became the first 'Make' programme under the Defence Procurement Procedure (DPP) 2011, with government providing 80 per cent of the funds for the development phase and rest 20 per cent funds will coming from the industry. The idea of 'Make' projects was conceived several years ago. The Kelkar Committee on Defence was instrumental in pushing forward the idea and finally, in 2006, it was introduced in the DPP. This selection of the development agencies for TCS was an outcome of rigorous rounds of scrutiny and years of concerted efforts put in by the Corps of Signals of the Indian Army jointly with the Indian Defence industry.

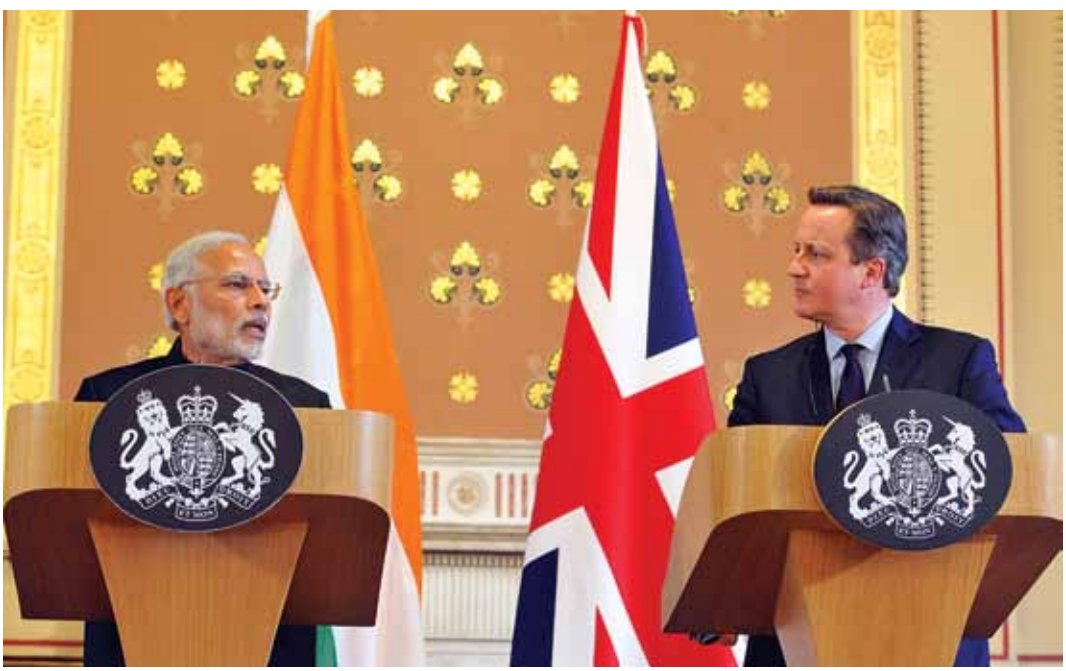
Why a TCS for the Indian Army approved in principle by two successive Defence Ministers years back was delayed by a decade plus and made forward movement only recently will remain a mystery. After every approval by a Defence Minister, the case was simply shut and a fresh file opened. Heads would have rolled in another country but in the cacophony that is India, everything is doable. A flexible threat reaction demands very mobile units which may be spread over a large geographical area. If the forces are to operate under a centralised management and at the same time retain their mobility, heavy demands are put on the communication system. These demands will be in the form of security, survivability and protection against electronic warfare.

A TCS is used within/in direct support of tactical forces. Since future military tactical communication networks must be highly mobile, survivable and reconfigurable, TCS for the Indian Army must be designed to meet changing tactical situations and varying environmental conditions, provide secure communications (voice, data and video) effectively linking mobile users of all tactical units in field. TCS is a system that is meant for offensive operations, configured as a mobile system that can leapfrog in sync with rapidly advancing strike operations—covering offensive elements of both the 'strike' and 'pivot' corps. Important requirements for the radio system are: ESM and ECM resistance; integrated voice and data to the user; performance matching projected user demand (like error detection/correction, quality, delays); effective use of transmission medium; interoperability; flexibility in deployment; survivability; provision of user mobility (carry options, easy access, etc). The overall network concept in the tactical battle area (TBA) is primarily divided into two main levels—static communications and mobile. The static communication part is being catered for by the Indian Army going full steam with a new optical fibre cable (OFC) network, especially since the military was made to surrender 3G spectrum in big way. Absence of TCS and patchy availability of OFC in TBA has also been adversely affecting trials and fielding of operational information systems even though we have had a full-fledged corps for undertaking field trials. The TCS, when fielded with requisite mobile terminals network, will fulfill a long-standing critical operational void of the Indian Army.

While inaugurating Defcom 2012, the then Defence Minister had said, "As the tactical domain is extremely fragile, with rapid mobility in a hostile and dynamic environment, modern-day communication tools have reduced the gap between strategic, operational and tactical domains", adding, "the single biggest challenge facing societies and nations was the vulnerability of communication and network devices to attacks, or threats in the electronic, cyber as well as the physical domain". Expressing concern over the ongoing procedural dispute delaying the TCS, an Army official says, "Even Pakistan has developed its own TCS type of project, and further delays on the Indian project will affect combat worthiness of the Indian Army". Hope the powers that be take a serious call on the delay, resolve the procedural disputes speedily, and get the project going. SP

LT GENERAL
P.C. KATOCH (RETD)

Prime Minister Modi's UK visit



Prime Minister Narendra Modi at the joint press briefing with the Prime Minister of UK, David Cameron, at Foreign and Commonwealth Office in London

The two nations also concluded negotiations over a civil nuclear deal that seeks to increase bilateral cooperation in the field of civil and military technology and nuclear research projects

With 1.4 million Indian-origin Britons ready to welcome Prime Minister Modi and the need for Prime Minister David Cameron to woo them, the stage was already set for a successful UK visit by Modi. Before the visit, British media spoke of informed political calculations and the ruling Conservatives extended a hand of friendship, both because Indian-origin voters are viewed as increasingly important and India a burgeoning international economic partner. Significantly, India was mentioned 17 times in the recent Conservative Party election manifesto and David Cameron is enthusiastic about India as a permanent UN Security Council (UNSC) member. In the same breath, British media also spoke about Chinese President Xi Jinping, who was feted without respite in UK by royals, ministers and celebrities mobilised on a grand scale, "with token demonstrations by Tibetan protesters but little else to unsettle the shameless bonhomie with a man whose wife sang and pirouetted to encourage soldiers who massacred at Tiananmen". Just prior to Cameron's visit to India in 2006 as the leader of the opposition, Cameron wrote, "India is the world's largest democracy, a rapidly growing economy, a huge potential trading partner, a diverse society with a strong culture of pluralism and a key regional player—a force for stability in a troubled part of the world." He had suggested that though Britain's relationship with India 'goes deep', it 'should go deeper'.

India and UK had forged a 'strategic partnership' in 2005 but Conservatives are keen to give it a fresh momentum, UK already being the largest European investor in India, and India the second largest investor in UK. During his visit to UK, Prime Minister Modi addressed the British Parliament, had discussions with his counterpart, lunched with the Queen, met with the CEOs and vowed 70,000 Indian-origin

PHOTOGRAPHS: PIB

Britons at Wembley Stadium, the irony being that as he spoke of need for the world to unite against terror, Paris was being subjected to multiple terror attacks.

The two Prime Ministers endorsed a 'Vision Statement' mainly centred upon: deepening the already close partnership on global issues; agreeing that international system of rules, widely accepted should be consistently applied; Prime Minister Cameron reaffirming UK's commitment to a reform UNSC with India as a Permanent Member; remain mutually engaged with G-20 members to realise its full potential; shared interests in stability and prosperity across Asia and the Indian Ocean—establishing annual senior official South Asia dialogue covering security, including terrorism, connectivity and maritime issues; condemning terrorism and calling upon Pakistan to bring perpetrators of November 2008 terrorist attack in Mumbai to justice; need for lasting and inclusive constitutional settlement in Nepal to promote political stability and economic growth; following UNHCR report, hope Sri Lanka will deliver lasting peace and prosperity for all its people; need for stable and inclusive democracy in the Maldives, including an independent judiciary; shared commitment and support for stable Afghanistan; need for inclusive political settlements in Syria and Iraq; need for full implementation of Minsk measures by all parties to de-escalate Ukraine; commitment to Post-2015 Development Agenda 'Transforming Our World: The 2030 Agenda for Sustainable Development'; satisfaction over progress made at the 2015 India-UK Cyber Dialogue; agreement to ensure Commonwealth remains relevant; recognising importance of preserving environment and sustaining diverse ecosystems; agreement work towards strong, sustainable and balanced growth, structural reforms and further strengthening of economic cooperation; London should play important role in channeling investment into infrastructure projects in India; setting up of India-UK partnership fund under the umbrella of the National Infrastructure Investment Fund (NIIF); deepening links between the two countries' financial services; India to launch government-backed rupee bond in London, and technical cooperation.

The two Prime Ministers also resolved to agree on a new 'Defence and International Security Partnership', endorsing 'Joint Statement on Energy and Climate Change' and 'Statement of Intent on Partnership for Cooperation in Third Countries'. During Modi's three-day UK visit, India and UK inked commercial deals of $13.7 billion in spheres of energy; IT and cyber; health care; education; creative and retail; logistics and finance and professional services. The two nations also concluded negotiations over a civil nuclear deal that seeks to increase bilateral cooperation in the field of civil and military technology and nuclear research projects. The western media has been anti-Modi for some time, including in UK. Cameron has championed Indian interests as few British Prime Ministers have in recent years. Though the rise of India as an economic power is transforming British attitudes towards India across the political spectrum, the opposition Labour Party remains critical of India because its Pakistani immigrant support base remains strong. So some protests were engineered against Modi's visit including because of perceived intolerance at home and abroad. Significantly, Prime Minister Modi also met UK's Sikh leaders in backdrop of Pakistan's ISI trying its level best to revive Sikh militancy in Punjab. SP

Prime Minister Modi delivering his address at Wembley Stadium in London on November 13, 2015

FDI in the Indian defence industry

The major global investors seeking to make large investments in the defence sector are unlikely to find the change to be a significant departure from the past

AIR MARSHAL
B.K. PANDEY (RETD)

Barely 48 hours after the verdict in the elections in the state of Bihar that were somewhat uninspiring for the BJP, the Modi-led NDA Government at the Centre appears to have gone into a desperate overdrive to shift focus decisively from the humiliating political debacle to the national economy. This is one area where the majority of the population continues to have high hopes of delivery by the government. On November 10, the government unveiled a new framework of regulations for foreign direct investment (FDI) into as many as 15 sectors of the industry in India. There has also been an effort to simplify procedures to enhance the ease of doing business in India. The high degree of difficulty entrepreneurs have always been confronted with while trying to set up business in India has indeed been a major impediment so far to the growth of the industry in India especially of the defence and aerospace sector.

Some of the important sectors proclaimed to be covered by the recent decision on FDI are infrastructure development, broadcasting, civil aviation, agriculture, plantation, manufacturing, single-brand retail, private sector banking and even defence. The timing of this announcement was significant as it came on the eve of the visit of Prime Minister Narendra Modi to the United Kingdom. This step by the government is timely as it would certainly help boost the profile of India globally as an investment destination. It is understood that this decision on FDI was taken in a hurry, without scrutiny of the proposal by the Cabinet, which will now be expected to provide ex-post facto sanction. (See Box for extract of Press Note of revised FDI related to the defence sector.)

In the capital-starved industry in India, FDI is generally seen as being a panacea for most if not all the ills plaguing the industry. Soon after coming to power at the Centre in May 2014, Prime Minister Modi embarked on a 'Make in India' campaign with the ultimate aim of creating a strong defence industrial base. FDI in the defence sector being an essential prerequisite for this mandate, as a first step, the government raised the limit of FDI from 26 to 49 per cent subject to scrutiny only by the Foreign Investment Promotion Board (FIPB). Under the UPA regime, FDI beyond 26 per cent required clearance by the Cabinet Committee on Security. To that extent there was some forward movement. Prime Minister Modi however, was determined to ensure that India shed its image of being one of the largest importers in the world of weapon systems.

With the changes implemented soon after taking over, the NDA Government had hopes that foreign investors would exploit the opportunities India had to offer across a wide range of industrial ventures, the defence industry certainly being one of the most lucrative. Data on FDI tabled in the Parliament in July 2014 had indicated that in the defence sector, in the preceding seven months, only six proposals for investment in the defence sector totalling to merely $15 million (₹97 crore) had been received. Of the six proposals, only two of them had reached the upper limit of 49 per cent. The intensity of response to the opportunity of FDI in the defence sector in India can be assessed when the size of the investment proposed to be made under this scheme in 2013-14 is viewed against the size of the contracts for military hardware concluded in the preceding 10 years that was valued at $60 billion (₹3,90,000 crore).

Under the revised procedure announced on November 10 this year, the only meaningful change that has been introduced is that FDI up to 49 per cent in the defence sector would be permitted under the 'Automatic Route'. This implies that the need for scrutiny and clearance by the FIPB that was introduced in mid-2014, has been dispensed with. However, proposals for FDI beyond 49 per cent would still have to be cleared by the FIPB. The major global investors who would be desirous of seeking to exercise a degree of control over their investments in India and hence would perhaps prefer investments higher than 49 per cent, are unlikely to find the change to be a significant departure from the past. Some of these companies have even described the changes made to be 'cosmetic'. The government needs to do much more to really strengthen the indigenous defence industrial base. SP

FDI in defence sector up to 49 per cent under automatic route

As per extant FDI policy in the defence sector, foreign investment up to 49 per cent is permitted under government approval route. Foreign investment above 49 per cent is also permitted, subject to approval of the Cabinet Committee on Security (CCS) on case to case basis, wherever the investment is likely to result in access to modern and 'state-of-the-art' technology in the country. Portfolio investment and investment by FVCIs is restricted to 24 per cent only. In this regard, the following changes have inter-alia been brought in the FDI policy on this sector:

- Foreign investment up to 49 per cent will be under automatic route.
- Portfolio investment and investment by FVCIs will be allowed up to permitted automatic route level of 49 per cent.
- Proposals for foreign investment in excess of 49 per cent will be considered by Foreign Investment Promotion Board.
- In case of infusion of fresh foreign investment within the permitted automatic route level, resulting in change in the ownership pattern or transfer of stake by existing investor to new foreign investor, government approval will be required. SP

FDI in Defence – Ease of business?

LT GENERAL
P.C. KATOCH (RETD)

On November 10, the government announced a host of measures to ease business along with foreign direct investment (FDI) reforms in 15 sectors including defence, stating that FDI bids worth up to 49 per cent of equity will now progress through the so-called 'automatic route'. As per informed sources, "This effectively means that foreign companies will now be able to bypass the government's Foreign Investment Promotion Board (FIPB) in finalising defence investment deals". Up to $1 billon FDI now does not need FIPB approval.

According to the media, citing the Finance Minister, government opted to use Rule 12 of the Transaction of Business Rules to usher in the changes. The clause allows for "departure from rules" and says: "The Prime Minister may, in any case or classes of cases permit or condone a departure from these rules, to the extent he deems necessary." It may be noted that FDI in defence had already been raised from 26 per cent to 49 per cent (or more basis involving transfer of technology (ToT) on case-to-case basis) in 2014 and this was done because in the previous 14 years we could attract just about $5 million. Yet despite having raised the FDI limit to 49 per cent, the defence industry has only managed to bring in a miniscule $0.08 million (₹52 lakh) of FDI leaving it virtually deprived of foreign investors.

More significantly, despite having promoted defence as one of the prime sectors under the 'Make in India' initiative, the defence sector has contributed zero per cent of the total FDI inflow in the country. Obviously, while raising the FDI in defence from 26 to 49 per cent we did not incisively analysed what should be the level of FDI that would make the defence sector lucrative to foreign companies?

More importantly, day after the 49 per cent FDI in defence was announced during the budget session of 2014, the visiting President of Federation of German Industries met our Defence Minister and later told reporters that German industries would not like to invest in India since with 49 per cent FDI they would not have control over selling the products. Ironically, defence equipment currently held by us is 50 per cent obsolete, the proportion of state-of-the-art equipment also needs to grow from its current level of 15 per cent to at least double. Acquisitions under the LTIPP are expected to include procurements worth $100 billion by 2022.

According to the *Financial Times* of UK, in the January-June period of this year, India surpassed US and China as the biggest FDI destination with $31 billion investments compared with $28 billion in China and $27 billion in the US. In the first half of 2014, India had received $12 billion worth FDIs, thus more than doubling the kitty in this year first half. So, when India has become such a lucrative FDI destination, why can't we attract FDI in defence? Clearly the fault lies within, the red tape being one reason which may be by default or design.

Why to talk of FDI, we are obviously not letting our private industry contribute equally in defence, despite the capability. Take the case of the Tata Consultancy Services (TCS), where development of the prototype by the Larsen & Toubro, Tata Power SED and HCL Ltd Consortium is stuck past several months without the Ministry of Defence (MoD) addressing issues of equivalent tax incentives provided to the Bharat Electronics Limited (BEL) and control over intellectual property rights (IPR) raised by them. Past several years, the Department of Industrial Policy and Promotion (DIPP) of the Ministry of Commerce and Industry has been recommending 74 per cent FDI in case of ToT and 100 per cent FDI in case of making available state-of-the-art technology.

We need state-of-the-art technology which we can get exploiting our strategic partnerships, some willing if they find it suiting their own national interest given the rapidly changing geopolitical scene

Now take the case of the Tejas, which despite having scores of imported assemblies and parts, the Indian Air Force (IAF) is likely to buy a number of squadrons but the Hindustan Aeronautics Limited (HAL) will unlikely be able to meet total requirements of the IAF since the number of their operational squadrons are declining rapidly. So this is one area (aerospace) where more production lines for Tejas could be established through joint ventures. Same goes for helicopters, transport aircraft, weapon platforms and other defence equipment.

We must acknowledge we have glut in technology and the military has major voids which we need to make up through FDI. We need state-of-the-art technology which we can get exploiting our strategic partnerships, some willing if they find it suiting their own national interest given the rapidly changing geopolitical scene. We therefore need to revisit the FDI in defence and make the defence sector unambiguously lucrative for FDI. Just facilitating foreign companies to bypass the government and the FIPB in finalising defence investment deals is unlikely to suffice. The issue of IPR and the number and guarantee of what would be absorbed in India too need to be addressed. It is also noteworthy how China despite being under sanctions has managed massive JVs with foreign collaboration in dual-use civil-military technology. SP

PHOTOGRAPH: ADA

Terror strikes Paris again

LT GENERAL
P.C. KATOCH (RETD)

A state of emergency has been declared in France following multiple terror attacks on November 13. This was the second terror attack in Paris this year, previous one being the January attack at the weekly newspaper *Charlie Hebdo*. But the multiple attacks in six locations this November was by far the deadliest that France has suffered with some 130 people killed and hundreds wounded in what was a pre-planned and well coordinated terrorist action. From the accounts, at least five terrorists including two suicide bombers were involved. Two suicide bombers reportedly detonated explosives at locations near a stadium where a soccer match between France and Germany was underway, also being witnessed by French President François Hollande. Simultaneously, terrorists also opened fire with automatics on a tightly packed Cambodian restaurant in a drive-by shooting. Gunmen also opened fire on Rue de Charonne, at the Louvre and Les Halles. The deadliest strike killing 118 people was when terrorists opened fire in the Bataclan concert hall, which was later stormed by French security forces eventually killing three terrorists. As per reports, overall eight terrorists and four policemen have been killed.

Ironically, terrorists were striking Paris at a time when Prime Minister Narendra Modi was speaking in London about the need for the world to unite against terrorism. In an address to the nation, French President Hollande said that the country will close off its borders. The French Government will prioritise immediately locking down the city, protecting civilians and capturing the attackers. The next piece of that will be to close down transportation and the borders to prevent any perpetrators from escaping. Finally they will begin to investigate to uproot the parties responsible for the attacks. French Army troops numbering 7,000 have now been deployed in Paris.

These terrorist attacks have come five days before French aircraft carrier Charles de Gaulle is to sail for the Persian Gulf for actions against the ISIS in Iraq-Syria. France had also joined US-led airstrikes against ISIS in Syria in September 2014. After the *Charlie Hebdo* attacks in January, France had reviewed its anti-terrorism measures. These will likely come under criticism and scrutiny. Intelligence undoubtedly failed in this case.

Although, terror attacks are easy to orchestrate in democratic countries, it is the intelligence that will need to be improved especially by infiltrating the ghettos and downtown areas that terrorists frequent, in addition to closely monitoring cyberspace and physically infiltrating these very organisations, including by proxy.

Post the *Charlie Hebdo* attacks, leaders of the EU had undertaken a march to show solidarity against terrorism. This resolve will need to be strengthened and more importantly translated into concrete action beyond just air strikes, in concert with other countries of the world. Concerns have been rising about the thousands of so-called Syrian refugees streaming into Europe, which, according to some, is a well thought out plan to infiltrate terrorists into Europe. The reasons cited are: first, Syria has been under attack for many years, so why this sudden exodus to Europe in such large numbers; second, many of the so-called Syrian refugees are not Syrians; third, there have been many incidents where instead of showing gratitude to the host country for being accepted, they have been displaying arrogance and making undue demands; fourth, the Belgium police has reportedly seized a consignment of 80,000 fake passports meant for the refugee influx into Europe; and, fifth, some of the refugees apparently are affluent, not displaying signs of being refugees, and possibly being infiltrated for a purpose along with genuine refugees. Police have found a Syrian passport close to the body of one of the suicide bombers in Paris. Another suicide bomber has been identified as a French national. The attacks will likely be politicised with Presidential elections due in 2017. However, French resolve against the ISIS will harden more, with French aircraft carrier Charles de Gaulle sailing out to the Persian Gulf on schedule. Anti-terror measures will be reviewed globally by most countries.

Although, terror attacks are easy to orchestrate in democratic countries, it is the intelligence that will need to be improved especially by infiltrating the ghettos and downtown areas that terrorists frequent, in addition to closely monitoring cyberspace and physically infiltrating these very organisations

Following the *Charlie Hebdo* attacks in Paris, police in London had held an exercise to test how they would respond to marauding gun attacks in the heart of London. Scotland Yard has created a special forces-style unit of 130 armed officers to counter the threat of a terrorist gun attack in Britain. The ISIS reportedly claimed responsibility only after President Hollande accused the organisation. The attacks followed the same pattern as in the 26/11 Mumbai attacks. Involvement of Pakistan-based terrorists too cannot be ruled out, with bulk Tehreek-i-Taliban aligned with ISIS and scores of Pakistani terrorists fighting alongside ISIS in Iraq-Syria. Additionally, the ISIS has been propagating 'lone wolf' attacks and a recent study conducted in the West concludes that lone wolf terrorism can inflict up to a million casualties through chemical, biological, radiological and nuclear (CBRN) terrorism. India needs to draw its own lessons. SP

Indian Navy's long-range maritime patrol aircraft – Boeing P-8I – dedicated to the nation

Chief of the Naval Staff Admiral R.K. Dhowan presenting a memento to Defence Minister Manohar Parrikar at the induction ceremony of P-8I Boeing aircraft squadron at INS Rajali, Arakkonam, in Tamil Nadu

Giving a boost to the firepower and arsenal of the Indian armed forces, Defence Minister Manohar Parrikar dedicated the Boeing P-8I (Poseidon Eight India) long-range maritime patrol aircraft to the nation on November 13, at an impressive ceremony held at INS Rajali, Arakkonam, India's premiere Naval Air Station in southern India, about 70 km off Chennai.

The ceremony was attended by a host of dignitaries including the Chief of Naval Staff Admiral R.K. Dhowan, and Flag Officer Commanding-in-Chief Eastern Naval Command Vice Admiral Satish Soni.

Parrikar, who flew in to INS Rajali onboard a Boeing P-8I from Port Blair, described the aircraft as one of the best for surveillance in the world today. During the flight, Parrikar was given an exposure to various sensors and other sophisticated state-of-the-art equipment and their capabilities. He said the aircraft will provide the Indian Navy the necessary reach and flexibility to undertake extensive surveillance as also to respond swiftly and effectively to contingencies in our areas of interest.

Parrikar, in particular, complimented the Navy and its air arm for expeditiously inducting and operationalising this force multiplier, which would enable the nation's armed forces to dominate the future battle space. Taking note of the spectacular efforts put in by INS Rajali and its personnel, Parrikar praised the fact that, even in the short phase of trials and testing, the P-8I aircraft had achieved a number of operational milestones which includes participation in the search effort for Malaysia Airlines Flight MH370, the first successful firing of air-launched Harpoon Block II missile in the world, torpedo firing and active participation in major naval exercises.

The P-8I aircraft is a variant of the P-8A Poseidon aircraft that Boeing developed as a replacement for the US Navy's ageing P-3 fleet. The Indian Navy became the first international customer for the P-8 aircraft with the conclusion of the nearly $2.1 billion contract on January 1, 2009, for a total of eight aircraft. The first aircraft arrived in India on May 15, 2013, and as of date all eight aircraft have been inducted into the Indian Navy and are fully integrated into its operations.

The P-8I aircraft is equipped for long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance in support of broad area, maritime and littoral operations. Its communication and sensor suite includes indigenous equipment developed by defence PSUs and private manufacturers. With its high speed and high endurance of about 10 hours, the aircraft is capable of thrusting a punitive response and maintaining a watch over India's immediate and extended areas of interest.

The aircraft are based at INS Rajali, and are operated by the Indian Naval Air Squadron 312A under the command of Commander Venkateshwaran Ranganathan. SP

Commissioning of offshore patrol vessel ICGS Samarth

The Indian Coast Guard Ship Samarth, the first in the series of six offshore patrol vessels (OPVs) was commissioned at Goa by Defence Minister Manohar Parrikar on November 10, in the presence of Vice Admiral H.C.S. Bisht, Director General, Indian Coast Guard, CMD Goa Shipyard Limited (GSL) Rear Admiral Shekhar Mittal (Retd) and other senior dignitaries of the Central and state government. 'Samarth' meaning 'Capable' is a projection of Indian Coast Guard's will and commitment 'to serve and protect' the maritime interest of the nation.

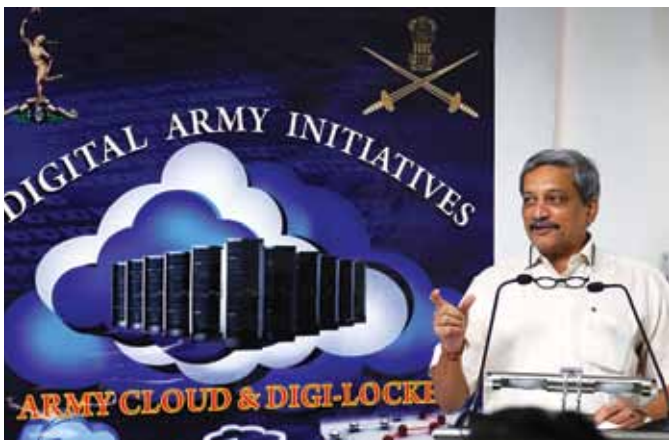
This 105-metre OPV has been designed and built indigenously by GSL and is fitted with most advanced state-of-the-art technology, navigation and communication equipment, sensors and machinery. The features include an integrated bridge system (IBS), integrated machinery control system (IMCS), power management system (PMS) and high power external firefighting system. The ship is designed to carry one twin-engine light helicopter and five high speed boats including two QRIB's for fast boarding operations, search and rescue, law enforcement and maritime patrol. The ship is also capable of carrying pollution response equipment to contain oil spill at sea.

The ship, on joining the fleet, will be based at Goa. She will be deployed extensively for EEZ surveillance and other duties as enshrined in the Coast Guard Charter. The vessel will be exploited extensively on the Western Seaboard, to safeguard the maritime interests of India. Presently, Indian Coast Guard has a fleet of 117 ships.

ICGS Samarth will be manned by a complement of 14 officers and 98 men and commanded by Deputy Inspector General Rakesh Pal, TM under the overall command and control of Commander Coast Guard Region (West). SP

PHOTOGRAPHS: Indian Navy

Defence Minister launches Army Cloud, Data Centre & Digi-Locker



Defence Minister Manohar Parrikar inaugurated the Central Data Centre, Army Cloud and Digi-Locker for the Indian Army in New Delhi on November 9. Complimenting the Army for initiating such steps as a part of the Digital Army programme he said this can be of great use for faster documentation, information and speedy delivery of services. The Minister emphasised the need to educate and sensitise every person in the force on the advantages of such services and technology upgradation. However, he also said that maintaining, checking and securing the system is equally important.

The facility under the Army Cloud includes a Central Data Centre, a Near Line Data Centre, both in Delhi and a Disaster Recovery site for replication of its critical data along with virtualised servers and storage in an environmentally controlled complex. This is similar to the Meghraj; the Cloud of National Informatics Centre (NIC) and will provide all information technology infrastructure including servers for computing, storage, network and network security equipment centrally, for automation of Indian Army. SP

Indo-Russian Exercise Indra 2015 begins

The seventh Indo-Russian joint training Exercise Indra 2015 commenced at Mahajan Field Firing Ranges on November 8, 2015, with an impressive opening ceremony that saw the unfurling of the national flags of both countries amidst playing of their national anthems.

Earlier on November 7, the Russian contingent from an Independent Motorised Brigade comprising 250 military personnel along with supporting staff landed at Bikaner directly from Russia. The 14-day training schedule is focused on training on 'Counter Terrorism Operations in the Backdrop of Desert Terrain under a United Nations Mandate'.

The conduct of this joint military exercise is seen as an important step to reinforce actions related to the establishment and fostering of peace, prosperity and stability in the world by the two nations. The welcome speeches and ceremonies were followed by showcasing of cultural programmes by both sides. They would undergo an intense phase of training in the coming days. The exercise is scheduled to terminate on November 20, 2015. SP

Prime Minister spends Diwali with the Indian Army officers and jawans

The Prime Minister Narendra Modi visited three memorials in Punjab which commemorate some of the spectacular successes of the Indian armed forces in the 1965 war.

The Prime Minister visited the Dograi War Memorial and the Barki War Memorial. The battles of Dograi and Barki were decisive successes achieved by the Indian Army during the 1965 war.

The Prime Minister visited Asal Uttar, the site of one of the biggest ever tank battles, where the Indian armed forces achieved a major victory. The battle of Asal Uttar is remembered for the heroics of Veer Abdul Hamid, who was posthumously awarded the Param Vir Chakra. The Prime Minister paid homage by laying a wreath on the memorial of Abdul Hamid.

He said that everyone wishes to spend Diwali with his or her family, and therefore, just as he had visited Siachen last year, he has chosen to spend Diwali with the officers and jawans of the armed forces this year as well. He said that as this year marked the 50th anniversary of the 1965 war, he has chosen to visit locations where the brave soldiers of the Indian armed forces had shed blood and made the supreme sacrifice during that war.

The Prime Minister said that the long-pending issue of One Rank One Pension has been resolved, and it has been granted. SP

PHOTOGRAPHS: PIB, Indian Army

Flood relief operations undertaken by Indian Navy at Chennai

The well marked low pressure area in the south-west Bay of Bengal has led to incessant rains, primarily affecting northern coast of Tamil Nadu and adjoining hinterland. The city of Chennai too has been adversely affected. Large-scale flooding of residential and general areas has severely affected the lives of people of Chennai.

Upon the request of the state administration, the Indian Navy's well equipped team comprising of divers, swimmers, two inflatable Gemini crafts, diving and associated rescue gear and life jackets has already been deployed for flood relief and rescue operations. The team was positioned at municipality office at Tambaram on November 16 for deployment in affected areas under the overall guidance of Dr Rajaraman, Secretary Tourism, Government of Tamil Nadu.

On November 17 the flood relief and rescue team had been moved to Vadakal village at Chengalpattu. The team is working in close consultation with RDO Tambaram and BDO Vadakal in rescuing stranded villagers and moving them to places of safety.

In addition, naval helicopter at naval base INS Rajali in Arakkonam too has been put on standby for utilisation by the state administration.

The Indian Air Force helicopters also responded to the task of carrying out rescue and relief operations in Tamil Nadu and Andhra Pradesh. Surplus water from lakes and nearby tanks had entered residential areas effecting more than 5,000 families. After evacuation of people, relief material containing food and drinking water was airdropped in the affected areas. SP

Relief and rescue operations undertaken by the Indian Navy and Indian Air Force in flood-hit Tamil Nadu and Andhra Pradesh

Shipwright School commissioned as INS Vishwakarma

Shipwright School, a premier technical establishment and alma mater for Naval Architect Officers, Shipwright Officers and Shipwright Sailors of the Indian Navy, was commissioned as Indian Naval Ship Vishwakarma by the Chief of the Naval Staff Admiral R.K. Dhowan at a formal ceremony held on November 14, 2015, at Visakhapatnam. Vice Admiral Satish Soni, Flag Officer Commanding-in-Chief Eastern Naval Command, Vice Admiral Sunil Lanba, Flag Officer Commanding-in-Chief Southern Naval Command, senior naval officers and dignitaries from the local administration were present on the occasion.

The event commenced with an impressive parade which was reviewed by the Chief of Naval Staff. Thereafter, Commodore Ajay Ghule, Commanding Officer (Designate), read out the Commissioning Warrant. The ceremony was solemnised by recitation of an invocation in Sanskrit.

Payal Soni, wife of Vice Admiral Satish Soni, unveiled the commissioning plaque and named the training establishment as 'INS Vishwakarma.' This was followed by hoisting of the naval ensign and playing of the national anthem, in accordance with the time honoured customs and traditions of the Indian Navy.

While addressing the gathering Admiral Dhowan emphasised that the commissioning of INS Vishwakarma would enhance the Navy's in-house design and maintenance capabilities. This would go a long way in transforming the Indian Navy to a designer's and builder's Navy in keeping with the 'Make in India' vision. The Admiral also highlighted Navy's commitment and resolve for 'Make in India.' He stated that today, the Indian Navy has technologically advanced warships, which have been designed in-house by the Navy's own Warship Design Organisation and constructed by several Indian shipyards. He further added that commissioning of INS Vishwakarma would enhance professionalism of young officers and sailors who would train here to become warship designers and hull maintenance technicians of the future. He also lauded the functioning of training establishments under the Southern Naval Command and the impetus Navy lays on training of its personnel. The Admiral also emphasised that quality professional training is the bedrock on which our warships, submarines and aircraft are able to effectively carry out their onerous tasks. The Admiral exhorted the officers and sailors, who would be passing out from the portals of INS Vishwakarma, to strive for excellence in their professional fields and take the Navy to even greater heights. SP

PHOTOGRAPHS: Indian Navy, IAF

Myanmar turns a new leaf

LT GENERAL
P.C. KATOCH (RETD)

Myanmar's main opposition party, the National League for Democracy (NLD), led by Aung San Suu Kyi, has won a resounding victory, sweeping through Myanmar's elections with 37 additional seats over the threshold of 329 seats required for majority in the two houses of Parliament. Suu Kyi, daughter of Myanmar's independence hero, Gen Aung San, spent 15 years under house arrest between 1989 and 2010, despite her NLD winning a landslide in elections in 1990 which were later nullified. Awarded the Nobel Peace Prize in 1991 for "her non-violent struggle for democracy and human rights", she was sidelined in 2010 elections but released from house arrest six days later. She won a parliamentary seat in 2012 by-election, when Myanmar adopted liberalising reforms. Though Suu Kyi has bagged a parliamentary seat for herself in the current elections, she is barred from becoming President of Myanmar despite the massive NLD win because her husband was a foreigner and her children are foreign nationals, under a constitutional clause inserted by the junta while transferring power to a quasi-civilian government in 2011. Many feel this was done specifically to rule her out. However, Suu Kyi has said that she will be the country's de facto leader, acting "above the President," if her party forms the next government. Capturing the presidency and Parliament would give the NLD power over legislation, economic policy and foreign relations, although the constitution guarantees that the military will keep control of the ministries of defence, interior and border security. Also, the military will be able to legally block constitutional amendments.

The ruling Union Solidarity and Development Party (USDP), which was created by the junta, is led by retired soldiers but the Army remains a formidable power. In addition to this bloc of parliamentary seats (25 per cent seats are reserved for the military), the C-in-C nominates the heads of the interior, defence and border security ministries and the constitution gives him the right to take over the government under certain circumstances. Presently, the military has said it will accept the outcome of the vote but there are questions how power sharing between Suu Kyi's NLD and the military will eventually work out. While full results of the election were still coming in, Suu wrote to the leadership requesting talks on national reconciliation. The US congratulated Myanmar on the election but noted that more work remains ahead on the country's road to democracy. Myanmar has been racked with Buddhist-Rohingya Muslim clashes past several months including during the election campaign since about a million Rohingya Muslims who are stateless are not permitted to vote. Myanmar effected effective implementation of ceasefire agreements with eight armed groups on October 15, 2015. Negotiations are continuing with other groups but the outcome is uncertain. Myanmar Army launched a fresh attack on rebel soldiers in eastern Myanmar's Shan state last month. Fighting erupted near Loilen district's Monghsu township headquarters of the Shan State Army-North (SSA-N)—the armed wing of the Shan State Progressive Party (SSPP)—causing Shan villagers to flee to safety. At the same time, money from abroad flowed in quickly as sanctions were eased.

Following settlement of a maritime boundary dispute with Bangladesh in 2012, Myanmar reformed its FDI law and provided greater revenue incentives for international company investments in 2012. It has since issued oil and gas exploration licences for 20 blocks in the Rakhine Basin in 2014, where giant gas discovery was first made in 2002. FDI stood at $8 billion in fiscal 2014-15, more than five times the flows recorded just two years earlier. Myanmar lies along the right pincer of China's strategic jaw reaching out to the Indian Ocean, which has led to China stepping up economic and defence relations with Myanmar. China has developed oil and gas pipelines connecting the Indian Ocean with mainland China and is developing ports on the Myanmar coast. However, following America's renewed interest in Myanmar, China has created a powerful proxy in the Shan State headquartered United Wa State Army (UWSA) that controls the narcotics 'golden triangle' arming them with machine guns, armoured vehicles, shoulder-fired air defence weapons and even missile-fitted helicopters. Myanmar is of strategic importance to India on the eastern flank and as a gateway for connectivity to South East and East Asia. Chinese intelligence in May this year established ULFWSEA (United Liberation Front of West, East and South Asia) in Myanmar bringing together nine militant groups of North East including the NSCN (K) and ULFA, to destabilise our North East. Prime Minister Modi has already visited Myanmar. Stability of Myanmar and good relations are what India looks up to. SP

Myanmar is of strategic importance to India on the eastern flank and as a gateway for connectivity to South East and East Asia.

PHOTOGRAPH: PIB

75th PC-7 MkII delivered to IAF

The successful handover of the 75th Pilatus PC-7 MkII training aircraft to the Indian Air Force (IAF) at the Air Force Academy in Dundigal marked the final aircraft delivery milestone under the contract between Pilatus and the Government of India's Ministry of Defence which was signed on May 24, 2012.

The introduction of the PC-7 MkII training system has enabled the IAF to revolutionise their basic pilot training capability. The arrival of the first of 75 Pilatus PC-7 MkII aircraft in February 2013 signified the beginning of a new era for pilot training in the IAF.

Jim Roche, Vice President, Government Aviation Business and Deputy CEO of Pilatus, said: "We are extremely pleased to have completed delivery of all PC-7 MkII trainer aircraft well ahead of the original IAF schedule requirement. Delivering and supporting the IAF's basic flight training requirements has been a remarkable experience and we remain fully committed to supporting the fleet's in-service operations with equal efficiency and competence."

The PC-7 MkII trainer aircraft has achieved some outstanding performance benchmarks at Dundigal. Since the first delivery in February 2013, the PC-7 MkII fleet has flown more than 40,000 hours and accumulated well over 80,000 landings.

The PC-7 MkII has enabled the IAF to increase the basic training syllabus in terms of flight hours by 220 per cent compared to previous operations and also increase the solo content from 1 to 14 sorties. The PC-7 MkII training system has successfully proven its effectiveness and validates the decision by the IAF to operate the most advanced basic flight training aircraft in the world—the PC-7 MkII. SP

Rockwell Collins to provide KC-390 cargo handling and other systems

Rockwell Collins has been selected by Embraer to provide the Cargo Handling and Aerial Delivery Control System (CHADCS) for the Brazilian Air Force's KC-390 programme.

"The CHADCS selection is a significant increase to our KC-390 content and is an example of both continuing to leverage our advanced Pro Line Fusion capabilities in expanded ways and also of innovating to address new opportunities," said Alan Prowse, Vice President and Managing Director, Rockwell Collins (Americas). "The win exemplifies the continued trust that Embraer has in Rockwell Collins based on our performance on the KC-390 to date."

CHADCS is a digital control system used to hold, monitor and execute precision air drops of cargo, vehicles and troops in a variety of tactical methods. The system consists of a loadmaster station with displays and controls, a network of lock control units and control panels to sense inputs, measure force, activate and release locks, along with high criticality software and processing hardware to manage the required automation, safety and precision.

Rockwell Collins has previously been selected by Embraer to provide the first military application of the company's highly advanced Pro Line Fusion integrated avionics system for the KC-390 programme. It also represents the highest content that Rockwell Collins has on an Embraer military aircraft. SP

United Arab Emirates selects the AW609 Tiltrotor

The Joint Aviation Command (JAC) of the United Arab Emirates announced that it has selected the AW609 Tiltrotor for search and rescue (SAR) missions. Delivery of the first three AW609 TiltRotors to the JAC, with three additional options, is expected to start in the 2019 time frame.

The JAC will be the launch customer for the search and rescue variant of the AW609 Tiltrotor, which will include a tailored equipment configuration to meet its specific operational requirements. The JAC said: "The AW609's unique speed and range characteristics, combined with its ability to hover, will dramatically increase SAR mission capabilities of the UAE's Joint Aviation Command. We look forward to operating the AW609 Tiltrotor and utilising the speed advantage it brings."

The AW609 opens up new possibilities for a wide range of missions including VIP and corporate transport, search and rescue, emergency medical services, offshore transport and homeland security. SP

PHOTOGRAPHS: Pilatus, AgustaWestland, Embraer

Lebanese Air Force selects A-29 Super Tucano

The Republic of Lebanon confirmed the acquisition of six A-29 Super Tucano turboprop aircraft from Embraer Defense & Security and Sierra Nevada Corporation. The contract includes logistics support for aircraft operation as well as a complete training system for Lebanese Air Force pilots and mechanics. The sale was approved in June by the US State Department.

The aircraft sale is part of a larger, more comprehensive package, including infrastructure improvements that will be fulfilled by other parties not involved in the Embraer/SNC partnership. The planes, which are currently in operation with 10 Air Forces around the world, will be built in the Jacksonville, Florida.

"The selection of the A-29 by the Lebanese Air Force is a great testament to the superiority of the Super Tucano and its ability to meet the challenges of the operating theatre in the Middle East," said Jackson Schneider, President and CEO of Embraer Defense & Security. "The Super Tucano is the best and most capable aircraft in the market with a proven record of success with air forces around the world." SP

Airbus Defence and Space and Coulson Group collaboration on C295W water bomber

Airbus Defence and Space and the Coulson Group of Canada have signed a memorandum of understanding covering the industrialisation, supply and support of the new water bomber version of the Airbus C295W transport aircraft.

The Coulson Group of Alberni BC, Canada, through its operating company Coulson Aircrane Ltd, will develop and manufacture a version of its retardant dropping system (RDS) which is already in operation with the world's most demanding firefighting agencies.

The system installed in the C295W will consist of two roll-on-roll-off internal tanks, which after the fire season can be easily removed. The highly versatile C295W will then be available for its conventional role as a ramp-equipped, multi-role transport able to carry cargo, troops, paratroops or stretchers. SP

French Navy's Rafales assess AESA radar capabilities in combat

From February to April 2015, French Navy's Rafale M F3 omni-role combat aircraft, equipped with the brand-new RBE2 active electronically-scanned array (AESA) radar and assigned to the 11th Fleet Air Squadron (Flotille 11F), operated in the Arabian Gulf from the Charles de Gaulle nuclear-powered aircraft carrier.

Tasked for close air support (CAS) missions and intelligence, surveillance and reconnaissance (ISR) missions to the benefit of operation inherent resolve (OIR) over Iraq, the French Navy pilots had the opportunity to assess the cutting-edge capabilities of the Rafale's RBE2 AESA radar in a very demanding environment. SP

Sikorsky completes VH-92A Presidential Helicopter Replacement Program

Sikorsky Aircraft Corporation announced the successful completion of the VH-92A Presidential Helicopter Replacement Program Preliminary Design Review (PDR), completion of the integration and performance testing of mission communications system (MCS) components, and Sikorsky's acceptance of the second S-92A aircraft for the programme.

"Completing these three milestones on or ahead of schedule is a fantastic accomplishment. We are committed to executing this programme on time and within budget. These achievements keep this program moving forward," said Spencer Elani, Sikorsky Program Director, VH-92A.

On May 7, 2014, the US Navy awarded a $1,24,46,77,064 fixed-price incentive engineering and manufacturing development (EMD) contract with production options to Sikorsky for 21 operational and two test aircraft.

Initial fielding is planned for 2020, with production concluding in 2023. Under the contract, Sikorsky will use its in-production S-92 aircraft and integrate government-defined mission systems and install an executive interior. SP

PHOTOGRAPHS: Embraer, Airbus Defence and Space, Sikorsky

Boeing and Tata announce Aerospace joint venture

Tata Advanced Systems Chairman S. Ramadorai (third from left) and Tom Bell, Senior Vice President, Global Sales & Marketing, Boeing Defense, Space & Security (second from right) sign the agreement to create a joint venture. Boeing International President, Marc Allen (second from left), Boeing India President Pratyush Kumar (left) and Tata Advanced Systems CEO Sukaran Singh (right) attended the signing ceremony.

Boeing and Tata Advanced Systems Limited (TASL) recently announced a joint venture (JV) that will manufacture aerostructures for aircraft and collaborate on integrated systems development opportunities in India.

The JV will initially create a manufacturing centre of excellence to produce aerostructures for the AH-64 Apache helicopter and to compete for additional manufacturing work packages across Boeing platforms, both commercial and defence. Boeing and Tata Advanced Systems intend to grow the JV partnership in the future, with a focus on opportunities to collaborate on development and selling of integrated systems.

"This partnership will capitalise on India's industrial capability, innovation and talent to contribute to Boeing's long-term competitiveness and position us for future growth in the global marketplace," said Chris Chadwick, President and CEO of Boeing Defense, Space & Security. "It is a demonstration of our commitment to further accelerate our partnership with one of the world's fastest growing economies."

"This agreement to establish a JV will propel the growth of the Indian aerospace sector by leveraging the world-class competencies of TASL and its supplier ecosystem, as well as provide access to India's world-class manufacturing capability, skilled talent and competitive cost structures," said S. Ramadorai, Chairman, TASL.

"Over the last 12 months, we have doubled our sourcing from India and are committed to continue that journey," said Pratyush Kumar, President, Boeing India. "Our commitment was demonstrated by Boeing Chairman Jim McNerney's presence at the recently concluded aerospace Innovation Summit in New Delhi and this JV is a clear example of Boeing's long-term commitment to 'Make in India.'"

"TASL is one of the select few in the private sector in India undertaking manufacturing and assembly of both aircraft and helicopters. The resulting scale and expertise at which the company now operates makes it well-positioned for large-scale systems integration work in India's aerospace and defence sector," said Sukaran Singh, MD & CEO, TASL.

Boeing and Tata group companies have established partnerships in India to manufacture aerostructures for Boeing's commercial and military aircraft. Tata Advanced Materials has delivered composite panels for the power and mission equipment cabinets and auxiliary power unit door fairings for the P-8I long-range maritime surveillance and anti-submarine warfare aircraft. TAL Manufacturing Solutions is manufacturing complex floor beams out of composite materials for the Boeing 787-9, the most modern aircraft with exceptional environmental and fuel-efficient capabilities. TAL Manufacturing Solutions has provided ground support equipment for the C-17 Globemaster III strategic airlifter. SP

Rafael Advanced Defense Systems appoints Major General Yoav Har-Even (Retd) as President and CEO

Rafael Advanced Defense Systems Ltd announced recently that its Board of Directors has appointed Major General Yoav Har-Even (Retd) as President and CEO of the company.

The decision follows a unanimous vote by Rafael's Board to adopt the recommendations of the company's Search Committee and select Har-Even to serve as the company's President and CEO, after careful evaluation of all the other candidates, in accordance with CEO appointment procedures of Israel's Government Company Authority.

The appointment is still pending examination of the Committee for CEO appointments and the approval of the Defense and Finance Ministers of Israel.

Major General Yoav Har-Even is 49 years old, married and father of three children. He served in the Israel Defense Forces (IDF) for 31 years in a variety of roles, including Commander of a reserve division, Chief of Staff of the Ground Forces Command and in his last role as Head of the IDF Operations Branch.

Har Even graduated from the University of Tel Aviv with a B.A. in Economics and Political Science and an M.B.A. with distinction. He will replace VADM (Retd) Yedidia Yaari who has served as Rafael's President and CEO for the last 10 years. SP

Lockheed Martin and international partners establish machining technology centre in UAE

Lockheed Martin, Exechon AB, a Sweden-based technology company and Abu Dhabi-based Injaz National have formed a new joint venture company in the United Arab Emirates focused on advanced machining technology.

The new Abu Dhabi-based joint venture, Exechon Enterprises LLC, will establish an engineering and manufacturing centre of excellence for Parallel Kinematics Machining (PKM) in the aerospace, defence and automotive sectors, as well as other industrial areas.

Exechon Enterprises LLC also will create an Application and Technology Development Center in collaboration with local industry and academia, establishing UAE as the leading supplier of this cutting-edge automated manufacturing technology. SP

PHOTOGRAPH: Boeing

Hacker slams Danske Bank for alleged security failure

Denmark's Danske Bank has been named and shamed by a white hat hacker for allegedly leaking confidential customer data in the form of session cookies on its public website.

IT consultant Sijmen Ruwhof says, he found the vulnerability within minutes of exploring the HTML code deployed on the bank's log-in screen.

In a blog post explaining the exploit, Ruwhof says that each time he attempted to log in, the site would randomly spit out the IP address and stored cookies of an actual Danske Bank customer.

"I'm shocked. I can't believe this. It's so obvious and in plain sight! How come that nobody at Danske Bank noticed this before?" he writes. "If the customer from the data that we're seeing is logged in at the moment, and if I copy those cookies and import them into my browser, then I'm also logged in as that customer. That's how cookies work, and thus that's how to identify theft works."

Ruwhof says he contacted Danske Bank to try to point out the flaw but failed to get beyond the switchboard. Instead he searched for the names of IT security staff on LinkedIn and posted his findings.

Within 24 hours the vulnerability was patched, but Ruwhof didn't receive a formal response from the bank until two weeks later, when it wrote: "Thank you for reporting a potential security vulnerability on our website. We investigated your report immediately. However, the data you saw was not real customer sessions or data – just some debug information. Our developers corrected this later that day." SP

PHOTOGRAPH: www.danskebank.com

Long delays at US airports

There were some long delays at airport all across the US last week when the computer system used to check passengers against the federal terror watch list shut down for over an hour. International passengers travelling through DFW and other major airports were stuck in long lines as US Customs and Border Protection agents searched the terror watch list and checked travellers passports by hand.

The glitch affected the self-serve kiosks people coming into the United States can use to scan their passports. According to a statement from the Department of Homeland Security, there is no indication the system was hacked. According to officials, the system was back online after being down for almost 90 minutes. SP

MHP leader sees 'security failure' in Ankara massacre

A serious security failure led to the October 10 double suicide bombing in Ankara, Turkey, that killed at least 99 people, Nationalist Movement Party (MHP) leader Devlet Bahçeli has said, suggesting that the government should have resigned if it were not an interim government that will serve only until the November 1 snap election.

In an interview with private broadcaster Habertürk, Bahçeli said Prime Minister Ahmet Davutoglu was wrong to claim that the current interim government, the caretaker of which is his Justice and Development Party (AKP), should not be dubbed an 'AKP government.'

"The Prime Minister is talking very wrongly and is distorting facts. He is destroying institutions while covering up the truth. If bombs are carried to Ankara by coming a long way, like 935 kilometres from Raqqa, then it means there is a failure or there are facts that we do not know," Bahçeli said.

Referring to the removal of Ankara's police, intelligence and security chiefs from their posts after the attack in order to ease the investigation into the bombing, the MHP head said these removals 'relieved society.' SP

Base jumpers breach Twickenham security

Two pals sneaked unchallenged into Twickenham Stadium and parachuted from the roof on to the pitch in a security lapse ahead of the Rugby World Cup. Princes William and Harry were among the sell-out crowd at the ground for England's huge Pool A clash against Wales.

Despite warnings of the raised security threat at the showpiece venue during the World Cup, daredevils Jamie Flynn and Darren Strafford—and a filmmaker who videoed the stunt – had little trouble pulling off their night-time escapade. Even after landing on the floodlit pitch, the jumpers were free to take photos before packing up their parachutes and strolling out of the stadium.

Jamie, 28, said: "We thought it would be harder. I think everyone would think it is." SP

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